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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/896,514	06/23/1997	CONRAD OLIVER GARDNER	95-004M	3272

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CONRAD O GARDNER
SUITE 1005
121 VINE STREET
SEATTLE, WA 98121

EXAMINER

LERNER, AVRAHAM H

ART UNIT	PAPER NUMBER
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3618

DATE MAILED: 12/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
08/896,514

Applicant(s)
Conrad Gardner

Examiner
Avraham Lerner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Aug 29, 2002
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-41 and 46-61 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 30-33 is/are allowed.
- 6) ☒ Claim(s) 34-37, 40, 41, 46-51, and 53-61 is/are rejected.
- 7) ☒ Claim(s) 38, 39, and 52 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

1. In view of the supplemental appeal brief filed on May 8, 2001, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (because this Office action is non-final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

If reinstatement of the appeal is requested, applicant should provide a corrected claim Appendix, with claims 55-57 properly numbered as detailed in the previous Office action.

Claim Objections

- ✓ 2. Claims 38 and 39 are objected to because of the following informalities: the recitation "a value less than a predetermined value to" is repeated in claim 38. Appropriate correction is required.

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3. Claims 46-49 are objected to because of the following informalities: the word "flow" should be inserted after "torque" in line 2 of claim 46 for consistency with the remainder of the claims. Appropriate correction is required.
4. Claim 47 currently depends from claim 36, and should be changed to be dependent from claim 46 as is best understood.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- JP*
12/2/02
6. Claims 46-49, 53, 55, 57, ⁵⁸59, 60, and 61 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 7. Claim 49 is confusing because it is unclear what is meant by "the period of torque transfer". It is especially unclear in that the limitation implies that there is a direct torque transfer from the first torque flow path to the second.
 8. Claim 53 is unclear in that it has two positive recitations of "one of said pair of wheels", and applicant should add "the other" after "powering" in line 4 of the claim to particularly point out and distinctly claim that the motor powers one pair of wheels and the engine powers the other set.

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withdraw
9. Claim 55 recites the limitation "the throttle pedal" in line 6. There is insufficient antecedent basis for this limitation in the claim.

maintain
10. Claim 55 recites the limitation "the cruise mode" in line 7. There is insufficient antecedent basis for this limitation in the claim.

withdraw
11. Claim 57 recites the limitation "the method" in line 1. There is insufficient antecedent basis for this limitation in the claim, and it should be changed to "a method".

maintain
12. Claim 57 recites the limitation "the cruise mode" in line 2. There is insufficient antecedent basis for this limitation in the claim.

maintain
13. Regarding claim 58, it is noted that the limitation "utilizing an internal combustion engine having a horsepower approximately 20 to 30 percent of the horsepower of an equivalent weight internal combustion only powered vehicle" is indefinite. For example, a 1991 Pontiac Sunbird and a 2002 Acura NSX are "equivalently weighted internal combustion only powered" vehicles, yet have listed peak power ratings of 96 hp and 290 hp, respectively. This disparity is considered more than simply a broad limitation, in that one skilled in the art would not be able to ascertain the metes and bounds of that which is being claimed.

withdraw
14. Claim 59 recites the limitation "the method" in line 1. There is insufficient antecedent basis for this limitation in the claim.

maintain
15. Claim 60 recites the limitation "the cruise mode" in line 2. There is insufficient antecedent basis for this limitation in the claim.

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16. Claims 46 and 61 are confusing because they twice positively recite either "traction wheels" or "drive wheels", and it is unclear whether the second occurrence is referring to the same set as the first occurrence, or a different set of wheels. This ambiguity renders the claims indefinite, and therefore they fail to distinctly claim the subject matter which applicant regards as his invention.

Claim Rejections - 35 USC § 102

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18. Claims 34-37, 50, 54, and 57-61 are rejected under 35 U.S.C. 102(b) as being anticipated by Ellers (U.S. Patent No. 4,923,025).

Ellers discloses a hybrid vehicle and method for controlling the same comprising all elements as broadly claimed, including an internal combustion engine (21), controlled to run at a constant speed (see abstract, lines 19-21) at least when driving at highway speeds and power a first set of drive wheels (15, 17) through a coupling means (torque converter 35); and an electric motor (7) coupled via a coupling means (transmission 9) to a second set of drive wheels, and wherein the electric motor powers the vehicle until a "cruise mode" is reached (e.g. 55 mph as stated in column 1, lines 56), at which point the electric motor is disengaged from its drive

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wheels, and the internal combustion engine alone drives the hybrid vehicle. When in “cruise mode”, if the operator pushes down hard on the accelerator pedal (see especially column 4, lines 17-32), the electric motor, which had been disengaged from its set of drive wheels, is coupled to the drive wheels in order to provide acceleration for the operator.

19. Claims 37, 40, 46, 47, 51, 55, and 61 are rejected under 35 U.S.C. 102(b) as being anticipated by Kenyon (U.S. Patent No. 4,438,342).

Kenyon discloses a hybrid vehicle and method for controlling the same comprising all elements as broadly claimed, including an internal combustion engine (10), alternatively powering a first set of drive wheels (20, 22) through a coupling means (clutch 12), or charging the batteries via an alternator (34); and an electric motor (54) coupled to a second set of drive wheels, and wherein the electric motor powers the vehicle until a “cruise mode” is reached (see column 4, lines 64-65), at which point the electric motor is disengaged from its drive wheels, and the internal combustion engine alone drives the hybrid vehicle. When in “cruise mode”, if the operator pushes down hard on the accelerator pedal (see especially column 4, lines 17-29), the electric motor, which had been disengaged from its set of drive wheels, is coupled to the drive wheels in order to provide acceleration for the operator. Note column 5, lines 3-6 which specifies that the clutch control can be accomplished using well known speed sensing devices. Also note that acceleration would be accomplished by pressing an accelerator pedal, whether the speed of the vehicle had previously been dropping or not, as recited in claim 55.

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20. Claims 37, 40, 50, 51, 54, 55, and 57-60 are rejected under 35 U.S.C. 102(b) as being anticipated by Lynch et al. (U.S. Patent No. 4,165,795).

Lynch et al. discloses a hybrid vehicle and method for controlling the same comprising all elements as broadly claimed, including an internal combustion engine (20) and electric motor (12) alternatively powering a pair of drive wheels, with a specific no-load speed which dictates whether the motor drives the wheels or the internal combustion engine. Also note that the internal combustion engine is "constrained to a small range of speeds about its most efficient operating speed" (column 3, lines 55-59), which is specifically to maximize fuel efficiency and minimize engine wear and exhaust emissions. Note that acceleration would be accomplished by pressing an accelerator pedal, whether the speed of the vehicle had previously been dropping or not, as recited in claim 55.

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellers.

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Ellers discloses a hybrid vehicle comprising all elements as claimed, as recited above in detail, except for disclosing that the internal combustion engine powers the vehicle at “about 40 miles per hour” (Ellers states 55 mph). Even if applicant believes that 55 mph is not “about 40 mph, it would have been obvious to one having ordinary skill in the art at the time the invention was made to reduce the control switch at “about 40 miles per hour,” since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Such a modification would have enabled the internal combustion engine to drive the vehicle more frequently than if the control was set for 55 mph, and therefore would have reduced drain on the battery, which would have been obvious to one of ordinary skill in the art at the time of the invention.

23. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lynch et al.

Lynch et al. discloses a method of operating a hybrid vehicle comprising all steps as claimed, as recited above in detail, except for specifically using a nickel cadmium battery. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a nickel cadmium battery, since it has been held to be within the general skill level of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Such a modification would have provided the vehicle with a known, dependable, rechargeable battery as was known at the time of the invention, and therefore would have been obvious to one of ordinary skill.

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24. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kenyon in view of Ellers.

Kenyon discloses a hybrid vehicle power train comprising all elements as claimed, as recited above in detail, except for providing a safety feature wherein in the event of an inoperable electric motor, the internal combustion engine provides power to the traction wheels.

Ellers discloses that it is known in the art to provide a hybrid vehicle with a safety feature wherein, if the charge of the drive batteries (5) gets too low (column 3, lines 29-34), and therefore the electric motor is inoperative, the processor will enable driving of the generator 63, and the internal combustion engine 21.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the vehicle power train of Kenyon with the safety feature of Ellers in order to prevent failure of the vehicle while driving. Such a modification would have ensured that if the battery power gets too low, perhaps due to extended stop-and-go driving, then the internal combustion engine can be used to power the drive wheels and continue steady operation of the vehicle without requiring the operator to stop and recharge.

Allowable Subject Matter

25. Claims 38, 39, 49, 52, and 53 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, and/or any informality objections set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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Response to Arguments

26. Applicant's arguments filed with the appeal brief have been fully considered but they are not persuasive. Applicant argues that no charging system receiving power from a internal combustion engine with "optimum power transfer" is to be found in Kenyon. However, it is noted that this is the exact purpose of the alternator 34, which is rotated by the engine and is used as a "charging system." In the arguments, applicant has repeatedly mentioned that details of the "cruise mode", evident from the specification, are not found in the prior art documents. In response, it must be noted that although the claims are interpreted in light of the specification, **limitations from the specification are not read into the claims.** See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant is arguing patentability based on limitations which are not found in the claims, and the examiner holds that the vehicle of Ellers, traveling at over 55 mph, may be considered in a "cruise mode" as claimed, and further wherein no rapidly changing power demands are being made.

Applicant's citation of MPEP Section 2173.04, stating that "breadth is not indefiniteness" is appreciated, and it is pointed out that applicant can not argue that terms such as "fast-charge battery" is merely broad, and also argue that the batteries of the prior art documents do not charge fast enough to meet such a limitation.

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Conclusion

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Avraham Lerner whose telephone number is (703) 308-0423.

AVRAHAM LERNER
PRIMARY EXAMINER

A. Lerner 12/2/02
December 2, 2002